Public Facilities, Services and Safety Element

Introduction

The Public Facilities, Services and Safety Element addresses facilities and services that are publicly managed, and have a direct influence on the location of land uses. These include Fire-Rescue, Police, Wastewater, Waste Management, Libraries, Schools, Information Infrastructure, Disaster Preparedness, and Seismic Safety. Three additional categories are addressed briefly within this Element and other sections of the General Plan as separate Elements. Park and recreation facilities are covered in the Recreation Element, water supply and conservation are covered in the Conservation Element, and transportation improvements are covered in the Mobility Element. The Public Facilities, Services and Safety Element also provides policies for prioritizing public facilities and services, and financing and development strategies.

The 1979 Progress Guide and General Plan emphasized the importance of timely development of facilities and services so as not to impact the adequate provision of public services. In the ensuing quarter century the city's ability to provide infrastructure and public facilities has been severely strained. Limitations have been particularly felt in the older urbanized areas, resulting from limitations on property

tax revenues, and the shifting of local tax revenues to the state. Revenue reductions initially resulted from the Property Tax Limitation Initiative of 1978 (Proposition 13) which placed extensive limits on property tax revenues. In the 1980s and 1990s, a substantial portion of property taxes, and other revenues historically reserved for local government, were shifted to state control.

These fiscal constraints impacted all California cities. However, the impact was not shared equally among the cities. The post Proposition 13 allocation of property taxes, as mandated by state Assembly Bill 8, resulted in Los Angeles and San Francisco receiving a much larger percentage of the local property tax than that received by San Diego. The city was left with a low overall revenue ratio compared with similar California cities. City general revenue per unit of net assessed valuation approximated one-half that generated in Sacramento, Long Beach, Los Angeles, and Oakland, and was significantly lower than that in San Jose and Anaheim.

While San Diego's revenue performance has historically been positive, the revenue base has not been sufficient in recent decades to fund substantial General Fund capital improvements. Consistent with this Element and community plans, prioritization of projects will be required to successfully plan for public facilities and services during this time of increasing demands for services, and rising costs of construction and maintenance. Development of joint-use facilities and regionalization of public facilities financing will be equally as critical. Additionally, the city's role in implementing the financing strategy identified herein is crucial to the planning and provision of public facility and service needs. The city is committed to ensuring adequate public facilities for all existing and future development in accordance with the General Plan, notwithstanding its limited fiscal resources and the financial challenges for funding capital improvements.

A. Public Facilities and Services Prioritization

Goal

- Public facilities and services that are equitably and effectively provided through application of citywide criteria and community specific priorities

Discussion

The provision of adequate infrastructure and public facilities is a key component of the city's growth strategy. After experiencing unprecedented growth rates in the 1980s, growth policies in the 1990s sought to guide growth citywide through tiers that were categories reflecting how development could occur based on the availability of public facilities and services.

Provision and maintenance of the city's infrastructure and public facilities have been severely strained in the last two decades. Fiscal constraints, restrictive legislation, limited funding sources, and competing interests for a diminishing supply of available resources have contributed to this challenge. Of particular concern on a consistent basis are the impacts to the existing public facilities and services in the city's older urbanized areas.

As the city implements its smart growth strategy, it will be vigilant with regard to the needs and impacts of growth throughout the city with special attention given to older and aging communities. In the interest of efficiently and effectively utilizing available resources, prioritization guidelines for public facilities and services must play an instrumental role in planning. A major planning goal for prioritizing public facilities is to foster village attributes, such as transit, walkability, and land uses which serve community needs, including a variety of housing types and inviting public spaces. The integration of residential, commercial, employment, and civic uses serve to define the village as the heart of the community.

Protecting resident's health and safety will continue to remain the city's overall priority in terms of planning for and providing services and facilities. Private development will pay its fair share of needed facilities to accommodate new growth. However, when considering the investment of public resources in infrastructure, the highest priorities would be for underserved areas. On the basis of location, the highest priorities would be for those areas where the land use and infrastructure allows for further growth and for underserved areas. In addition to these factors, community level prioritization will depend on the sufficiency of community-specific public facilities, plus the collective preferences of residents regarding the importance and timing of the various facilities. These community specific factors will need to be described in community plans as they are amended and updated. The following policies apply to all public facilities and services discussed in the General Plan.

Policies

PF-A.1. Protecting resident's health and safety will continue to remain the city's first priority in terms of planning for and providing services and facilities.

PF-A.2. After consideration of public health and safety, the allocation of public resources for public facilities should consider the following priorities:

a. The first preference should be given to locations within existing and potential village and transit Corridor areas as described by the village locational criteria in the General Plan and specified in the applicable community plan. These areas should be within communities not meeting public facilities guidelines or acceptable levels of service for the type of facility or service being considered.

b. The next preference is to provide public facilities in areas generally outside existing and potential village and transit corridor locations as previously described, in communities that are not meeting public facilities guidelines or acceptable levels of service for the type of facility or service being considered.
c. The third preference is to provide public facilities for development within existing and potential Villages and Transit Corridor locations as previously described, in communities that generally meet public facilities guidelines or acceptable levels of service for the type of facility or service being considered.

PF-A.3. Apply citywide priorities consistent with the goals, guidelines, and policies for each facility and service in the General Plan.

PF-A.4. For regional capital facilities and infrastructure, invest in those facilities that provide the most significant positive economic impact to the city. Priority should be given to regional infrastructure investments that are fundamental to future needs and provide leverage for the city's competitive advantages.

PF-A.5. Utilize community specific priorities to guide the provision of public facilities and services consistent with adopted plans and community preferences by developing a Community Facilities Element within each community plan to guide the prioritization by incorporating: community specific criteria to define and describe the desired character of needed facilities; and using public facilities financing plans (PFFP) to provide a baseline of existing needs and public prioritization preferences, overall and by category.
a. Develop public facility and services priorities on a community basis to be consistent with citywide priority guidelines.
b. Apply guidelines for public facilities which consider varied community constraints and needs, while providing an equivalent level of service and maintaining consistency with sustainable development policies.
c. Evaluate and arrange prioritized needs giving consideration to management, operation, and maintenance requirements.
d. Public facilities where public contributions can be leveraged with private investment should be considered.

PF-A.6. Include an evaluation of current citywide and community priorities in all community plan updates and community plan amendments for consistency and/or adjustments.

PF-A.7. Determine that public facilities and services priorities are consistent and reflected in the annual programming and budgeting of the Capital Improvements Program (CIP).

a. Incorporate public preferences on citywide capital projects and service priorities into the preparation of the annual Capital Improvements Program.

B. Public Facility and Service Provision Strategy

Goal

- Development patterns that result in the timely and adequate provision of public facilities and infrastructure

Discussion

The majority of new growth in the city needs to have a more compact urban form and increase joint-use efficiencies in order to achieve progress in remedying existing public facilities shortfalls and provide high quality public facilities and services in the future. Adequate sources of revenue need to be secured, and facilities and services must be better tailored to meet the needs of diverse communities with respect to demographics. To meet current and future facilities needs, growth must be directed into development patterns that can be served efficiently, limited and often restricted existing funds must be targeted to support desired growth patterns (see the Strategic Framework/Land Use Element), and new or expanded funding sources must be considered. Additionally, attention must be directed to the maintenance and operational requirements of all public facilities. The success of the city's smart growth strategy and villages concept is contingent upon these efforts. As the city continues to mature and more communities become urbanized, the provision and timing of assured public facilities will continue to be crucial for effective planning implementation.

PF-B.1. Analyze development proposals for impacts to public facilities and services.

a. Identify the demand for public facilities and services resulting from discretionary projects.

b. Identify specific improvements and financing which would be provided by the project, including the adequacy of sewer, water, storm drain, solid waste, fire, police, schools, libraries, parks, open space, and transportation.

c. Subject projects requiring a community plan amendment, as a condition of approval, to exactions that are reasonably related and in rough proportionality to the impacts resulting from increased development in the community.

d. Projects requiring community plan amendments may not adversely affect the adopted community plan, facility and service guidelines, or levels of service.

PF-B.2. Provide public facilities and services to assure that adequate levels of service are maintained as new development occurs.
   a. Ensure the timing and provision of public facilities and services are consistent with the development strategies described in the Strategic Framework/Land Use Element.
   b. Reserve the right and flexibility to use the city's police powers to impose timing and sequencing controls on new development to regulate the impacts and demands on existing or new facilities and services.

PF-B.3. Promote the joint-use of facilities, including schools, parks, libraries, child care facilities, and other public facilities and services.

PF-B.4. Provide for the future population according to the fair share abilities of the city's communities to accommodate new residents commensurate with the public facilities to support them.

PF-B.5. Maintain public facilities financing plans (PFFP) that guide the provision of public facilities.
   a. Evaluate and update financing plans, with full cost-recovery from developers, for consistency if needed, when community plans are updated or amended to increase density or intensity.
   b. Include in financing plans a variety of facilities that have the potential to meet the needs of diverse communities.
      1) Identify in financing plans those public facility needs that are eligible for development impact fee funding, including but not limited to: police, fire-rescue, library, parks and recreation, and transportation facilities.
      2) Identify in financing plans community facilities recognized locally as serving the needs of the community, being accessible to and benefiting the public, but not eligible for development impact fee funding.

C. Public Facilities Financing

Goal

- Implementation of financing strategies and options that address existing and future public facility needs

Discussion

Managing growth in the city through the assurance of adequate and timely public facilities to serve the future population continues to be a great challenge. The provision of city infrastructure and public facilities has been severely strained for more

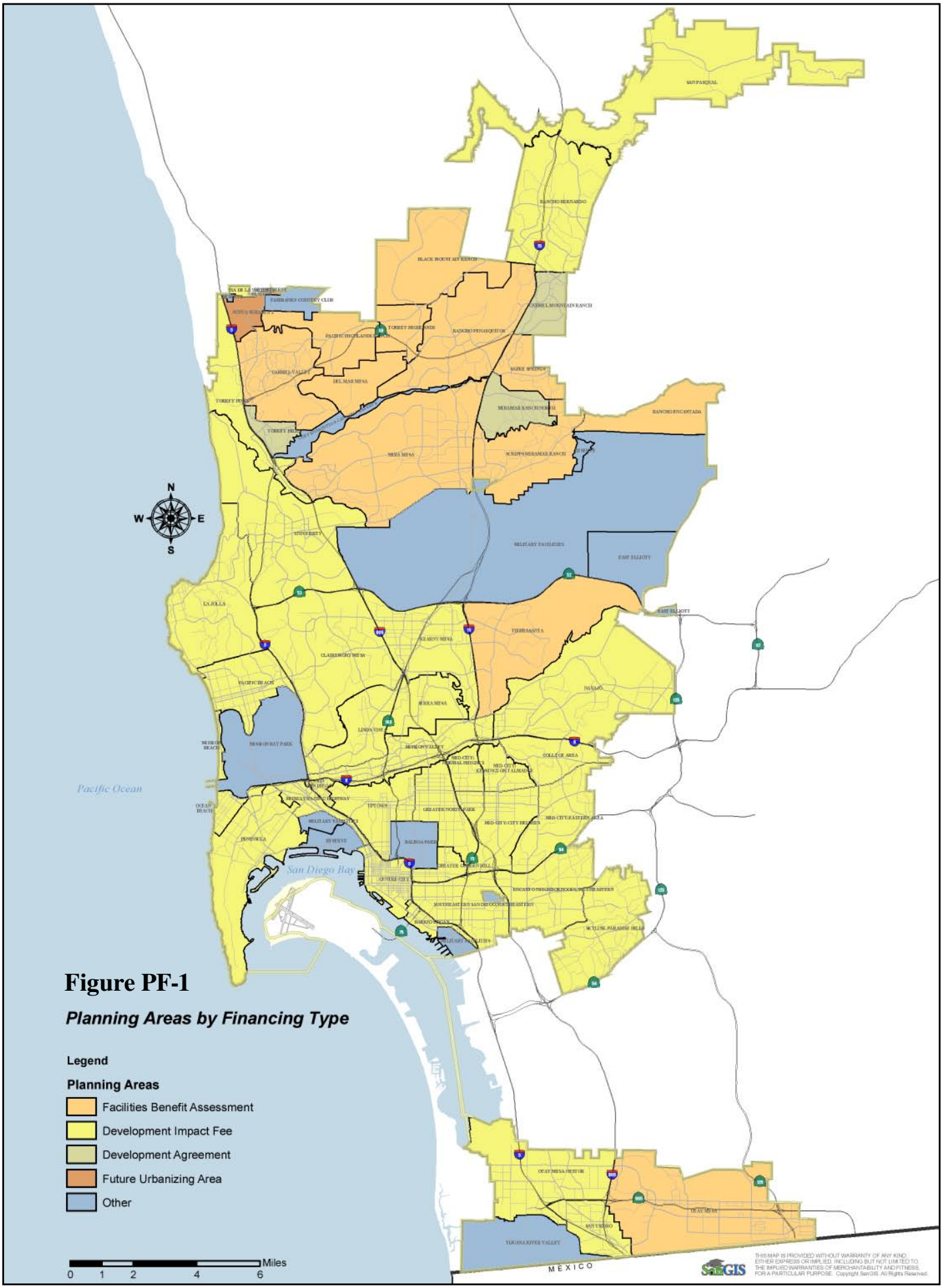


Figure PF-1

Planning Areas by Financing Type

than two decades. Limitations have been particularly felt in the older urbanized areas, as the combination of limits on property tax revenues and shifts of local taxes to the state have occurred. The passage of Proposition 13, the Property Tax Limitation Initiative, in 1978, followed by state budgeting actions beginning in the early 1980s, further reduced local revenues. During periodic recessionary times, the state has balanced its budget by appropriating local revenues. State repeals of previous subventions (categories of financial support) to local governments have resulted in an approximate one billion dollar drop in cities' and counties' combined share of the local property tax statewide.

These fiscal constraints have impacted all California cities, but not to the same degree. The post Proposition 13 allocation of property taxes, as mandated by state Assembly Bill 8 soon after the measure passed, has resulted in Los Angeles and San Francisco receiving a much larger share of the local property tax than is received by San Diego (see Table PF-1). San Diego also ranks low overall on general revenue sources, with a dollar amount slightly more than one-half that generated per dollar of net assessed value in Los Angeles. The reasons for this difference include both the higher percentage of property taxes allocated by the State to Los Angeles (per the formula set by Assembly Bill 8), as well as that city's use of more and greater sources of revenue.

Table PF-1 Property Tax Allocation

	Percent of 1%
Los Angeles	**26.41%**
Sacramento	**Not Available**
San Diego	**17.07%**
San Francisco*	**57.74%**
San Jose	**15.45%**

* San Francisco is a joint county/city. As a comparison, the County of San Diego receives 15.73% bringing the city/county total to 32.8%.
Source: City of San Diego Facilities Financing Study, 2002.

As of 2005, San Diego did not utilize several potential municipal revenue sources which are relied upon by the vast majority of similar California cities (see Table PF-2). Prominent among these are lack of a residential trash collection fee, lack of any utility user tax, and lack of water/sewer rights-of-way franchise fees. Other revenues, such as the Transient Occupancy Tax and the Real Property Transfer Tax are currently charged at much lower rates than applied by San Diego's peer cities in California. Since the passage of Proposition 218 in the mid 1990s, increases to such revenues now require citywide voter approval, further complicating the ability to implement these options.

Table PF-2 Comparison of 15 California Cities

City	Utility User Tax	Residential Trash Collection Fee	Water/Sewer Utility Right-of-Way/ Franchise Fee
Los Angeles	YES	YES	YES
San Diego	NO	NO	NO
San Jose	YES	YES	YES
Long Beach	YES	YES	YES
Fresno	YES	YES	YES
Sacramento	YES	YES	YES
Oakland	YES	YES	YES
Santa Ana	YES	YES	YES
Anaheim	NO	YES	YES
Riverside	YES	YES	YES
Stockton	YES	YES	YES
Bakersfield	NO	YES	YES
Glendale	YES	YES	YES
Fremont	NO	YES	YES
Huntington Beach	YES	YES	YES

In spite of the detrimental fiscal constraints, the city's role in implementing the financing strategy described herein is crucial to the planning and provision of public facility and service needs. California law limits development's required contributions for public facilities to a proportional fair-share based on a clear nexus. Therefore, the city must be held responsible for its fair-share of public facility and infrastructure costs. It must invest in the construction and maintenance of facilities to address current needs and to support future growth. The ultimate implementation of the smart growth strategy described in this General Plan is contingent upon a financing strategy and the city's ability to provide and maintain its facilities in a timely fashion. More importantly, preserving quality of life in the city, especially in older communities with longstanding needs, hinges on the city's efforts to implement the financing strategy.

In 2002 the City Council adopted and approved the City of San Diego Facilities Financing Study. The report was prepared for the Strategic Framework Citizen Committee, Finance Subcommittee. The major revenue options from the study are included in Table PF-3.

Policies

PF-C.1. Address current and future public facility needs by pursuing, adopting, implementing, and maintaining the following strategy:

a. Support state/local government fiscal reform efforts which provide an equitable redistribution of property tax proceeds or other revenues to the city from the state.

b. Assume an active leadership role in planning and implementing infrastructure investments on a collaborative regional basis.

   1. Apportion on a regional level, as applicable and appropriate, eligible infrastructure expenses to support regionally beneficial growth policies.

c. Coordinate with all appropriate authorities and agencies for a more efficient use of shared resources and joint-use opportunities for facilities and services.

d. Adopt new, or increase existing, user fee and taxation measures including, but not limited to, the options identified in Table PF-3.

e. Work in partnership with stakeholders to promote a bond measure to address the city's unfunded public facilities construction and maintenance needs.

f. Facilitate, where supported by local residents, adoption of improvements and/or maintenance districts, and other assessments for locally prioritized facilities and/or services.

g. Pursue Regional Comprehensive Plan and Smart Growth Incentive Program funding for transportation needs consistent with the financing policies in the Mobility Element.

h. Support appropriations from the funding sources identified in Table PF-4 to finance public facility costs.

Table PF-3
Major Revenue Options

Tax/Fee	Voter Requirement [1]	Basis of Levy
Ad Valorem Property Tax -Override for Bonds	Two-thirds	Citywide based on assessed value of property. An increase of the tax rate above 1% is limited to servicing bond debt service.
Sales and Use Tax [2]	Fifty percent if levied for general purposes [3]	Citywide, as a percentage of taxable retail and business-to-business sales.
Transient Occupancy Tax	Fifty percent if levied for general purposes [3]	Citywide, primarily derived from visitors
Business License Tax	Fifty percent	Citywide although specific rates could reflect policy priorities
Utility Users tax	Fifty percent	Citywide
Franchise Tax/Fees	Set by negotiation with individual utilities	While directly levied on utilities, effect would be citywide
Transfers from Municipal Utilities	None although may be vulnerable to proposition 218 challenge	Effect would be citywide
Real Property Tax Transfer	Fifty percent	Levied on Property sales
Parcel Taxes (including Mello-Roos)	Two-thirds	Can be levied citywide or locally
Storm Drain Fees	Likely fifty percent; Unresolved under Proposition 218	Likely Citywide
Refuse Collection Fees	Fifty percent to amend the City Municipal Code	Citywide on residential collection
Benefit Assessments	Fifty percent of property owners	Levied on property within a benefit assessment district

[1] Based on California state law. Implementation of a city proposition to require two-thirds vote on all tax increase is subject to outcome of current litigation.
[2] There is a statutory provision for countywide local sales tax. A citywide tax would require special legislation.
[3] Sometimes levied as a special tax, requiring two-thirds voter approval.
Source: City of San Diego Facilities Financing Study, 2002.

Table PF-4
Funding Sources

• Annual Allocations • Assessment Districts • Business License Tax Revenue • Capital Outlay (Lease Revenue) • Certificates of Participation (COP) • Community Development Block Grants (CDBG) • Development Impact Fees (DIF) • Facilities Benefit Assessments (FBA) • Franchise Fee Revenue	• Gas Tax • General Obligation Bond Issues • Grants • Landscaping and Lighting Acts • Lease Revenue Bonds • Local Transportation Fund • Motor Vehicle Licenses Fee Revenue (MVLF) • Park and Playground Act of 1909 • Parking Meter Revenue • Park Service District Fees (PSD)	• Parking Violation Revenue • Private Contributions • Property Tax Revenue • Special Park Fee (SPF) • Special Taxes for Fire and Police Protection • Special Taxes for Libraries • Transient Occupancy Tax (TOT) • TransNet • Utility Users Tax

PF- C.2. Maintain an effective facilities financing program to ensure new development mitigates the impact of its development.

a. Ensure new development pays its proportional fair share of facilities costs through applicable development impact fees pursuant to the California Government Code.
b. Ensure development impact fees (DIF) and facilities benefit assessments (FBA) are updated frequently and evaluated periodically to ensure financing plans are representative of current project costs and facility needs.
c. Develop or update every two years, and maintain public facilities financing plans (PFFP) that are consistent with Community Facilities Elements in each community plan, to identify public facilities needs, costs, priorities, and potential funding sources.

PF-C.3. Integrate all planning and development policies and strategies in the annual development of the Capital Improvements Program.

a. Review all capital projects for consistency with adopted planning documents, such as the General Plan, community plans, public facilities financing plans, the city's smart growth strategy and others.
b. Coordinate citywide capital project prioritization and programming with the city's budget office for consistency with General Plan prioritization guidelines.
c. Conduct annual conformance and audit reports of the Capital Improvements Program.

PF-C.4. Conduct periodic review of the fiscal impacts of private development throughout the city to serve as a policy guide regarding the amount, intensity, location, and timing of new development.

PF-C.5. Establish a consistent approach to evaluating and reporting the long-term fiscal impact of public policy decisions to ensure a sound fiscal base.

D. Fire-Rescue

Goal

- Protection of life, property, and environment by delivering the highest level of emergency and fire-rescue services, hazard prevention, and safety education

Discussion

Historically, the primary mission of the fire service was limited to fire protection. Over the past two decades the fire service's mission has expanded both locally and nationally. In 1997 the San Diego Medical Services Enterprise limited liability corporation was formed, through a partnership between the City of San Diego and Rural/Metro Corporation, to deliver paramedic services citywide. This program utilizes paramedics on the first responder apparatus as well as the ambulance units. In addition to the wide variety of traditional fire suppression services such as structural, airport, marine, and vegetation firefighting, today's services include emergency medical services (EMS), water rescue, hazardous material response, confined space rescue, cliff rescue, high angle rescue, mass casualty incidents, and response to terrorism and weapons of mass destruction. The fire service is also responsible for hazard prevention and public safety education.

Suburban residential development patterns and anticipated future development throughout the city will place an increasing demand on the capabilities of fire-rescue resources to deliver an acceptable level of emergency service. Service delivery depends on the availability of adequate equipment, sufficient numbers of qualified personnel, effective alarm/monitoring systems, and proper siting of fire stations and lifeguard towers. As fire-rescue facilities built in the 1950s and equipment continue to age, new investments must be made to support growth patterns and maintain levels of service to ensure public safety.

The few remaining newly developing areas of the city often present challenges associated with proper site location, funding of fire stations, and timing of development. In redeveloping communities, funding and site locations for new or expanded facilities also require great effort and coordination.

Policies

PF-D.1. Fire stations should be located, staffed and equipped to meet the following established response times. Typically a two to two-and-one-half mile distance between fire stations will address the required response times.

a. Total response time for the first-in engine company for fire suppression should be within five minutes (turnout and travel time) 90 percent of the time.
b. A full first alarm assignment total response time should be within nine minutes (turnout and travel time) 90 percent of the time.
c. First responder or higher-level capability should arrive at emergency medical incidents within five minutes (turnout and travel time) 90 percent of the time.
d. A unit with advanced life support (ALS) capability should arrive at emergency medical incidents within nine minutes (turnout and travel time) 90 percent of the time.

PF-D.2. Recommended fire station site area should be 3/4 acre and allow room for station expansion.

a. Consideration should be given to including joint-use opportunities such as community meeting rooms or collocating with police, libraries, or parks.
b. Site acquisition should be required for surrounding urban development and a priority as other opportunities allow.

PF-D.3. Maintain service levels to meet the demands of continued growth and development, tourism, and other events requiring fire-rescue services.

PF-D.4. Provide, and efficiently utilize, public safety related facilities and services to assure adequate levels of service standards are attained concurrent with development.

PF-D.5. Ensure that all fire-rescue infrastructure, facilities, buildings, and other designed structures are evaluated for adherence to public safety standards and sustainable development policies and that any impacts on fire-rescue services are mitigated.

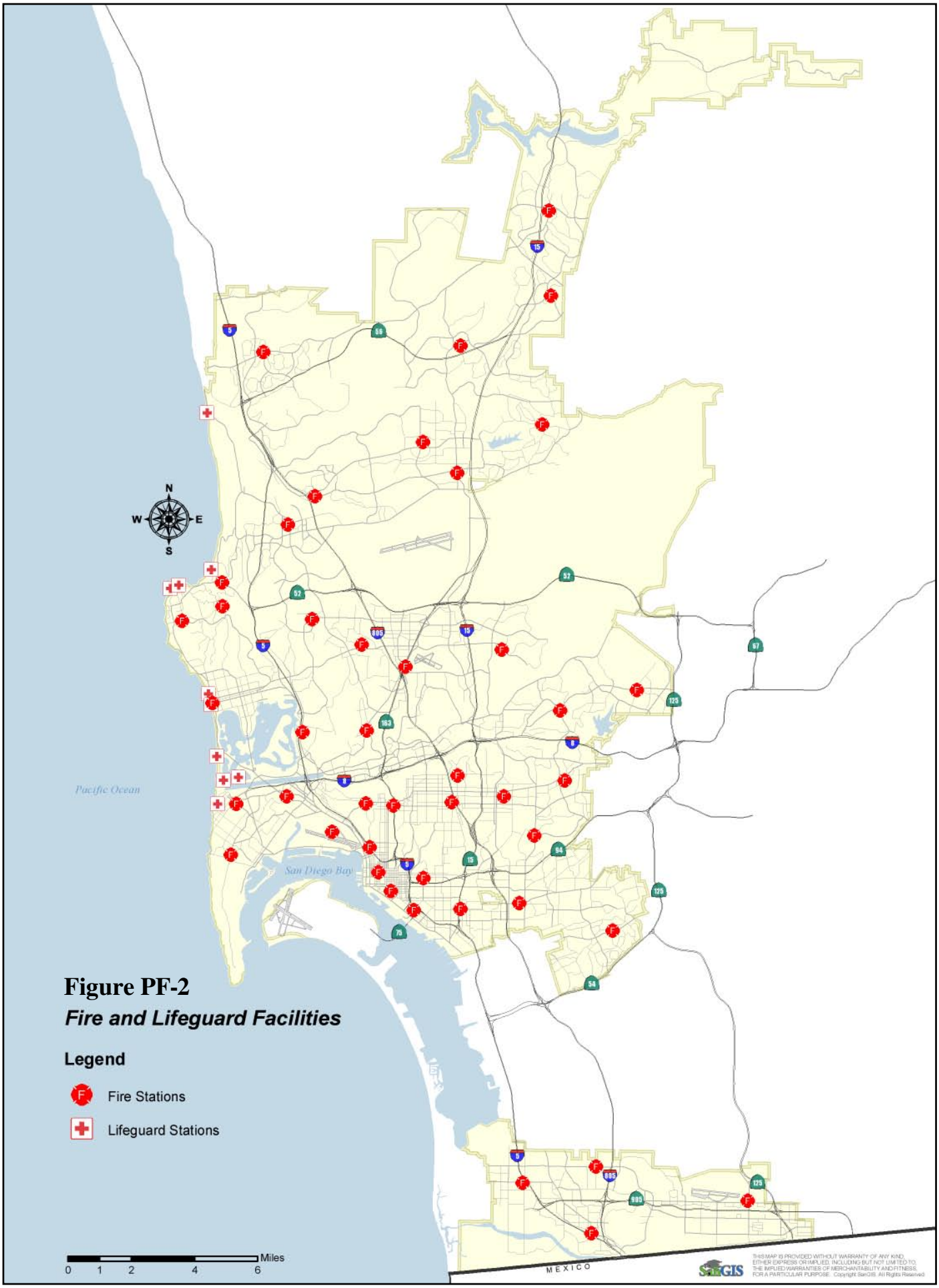


Figure PF-2

Fire and Lifeguard Facilities

PF-D.6. Invest in, and incorporate, all future technological advances that enhance the city's ability to deliver emergency and fire-rescue services more efficiently.

PF-D.7. Provide and maintain a training facility and program to ensure fire-rescue personnel are properly trained.

PF-D.8. Fire stations should be sufficiently buffered from adjacent land uses, especially if located in residential areas, when feasible.

PF-D.9. Lifeguard towers should be spaced every 1/10 of a mile or 10 towers per mile.

E. Police

Goals

- Communities in which public safety is assured, and peace and order are maintained

- Police services that respond to community needs, respect individuals, develop partnerships, manage emergencies, and apprehend criminals with the highest quality of service

Discussion

The City of San Diego police services include patrol, traffic, investigative, records, laboratory, and support services. The city works toward accomplishing its police and public safety goals by embracing the Neighborhood Policing philosophy and practice. Neighborhood Policing requires shared responsibility between the city and residents in order to address underlying problems contributing to crime and the fear of crime. The city works in a problem solving partnership together with community groups, government agencies, private groups, and individuals to fight crime and improve the quality of life for the people of San Diego.

Until the 1980s, the city provided its police services citywide, primarily from a single centralized facility. Several in-house and consultant studies were conducted during the 1970s to evaluate the benefits of decentralizing police functions. As a result of these studies, it was determined that several area stations were to be established throughout the city to better serve individual communities. To accomplish this, a twenty-year plan was developed to establish four new area police stations (Southeastern, Western, Eastern, and Northeastern), replace the existing Southern Division station, construct a new Administrative and Technical Center to replace the existing police headquarters, and relocate the Central Division. Developing needs

also led to the construction of a Mid-City Division facility and a centralized Traffic Division facility.

With the exception of the Northern Division area station (circa 1970), all major facilities now occupied by city police services were constructed during the twenty-year plan period. The demographics and population growth projections for the city have changed since the last studies were conducted, as have the needs and technologies employed by the city in providing police services. Advances in laboratory services, information technology, and specialized units have presented a challenge to those trying to accommodate them. Further, several of the area stations built during the 1980s are already crowded and in need of improvement.

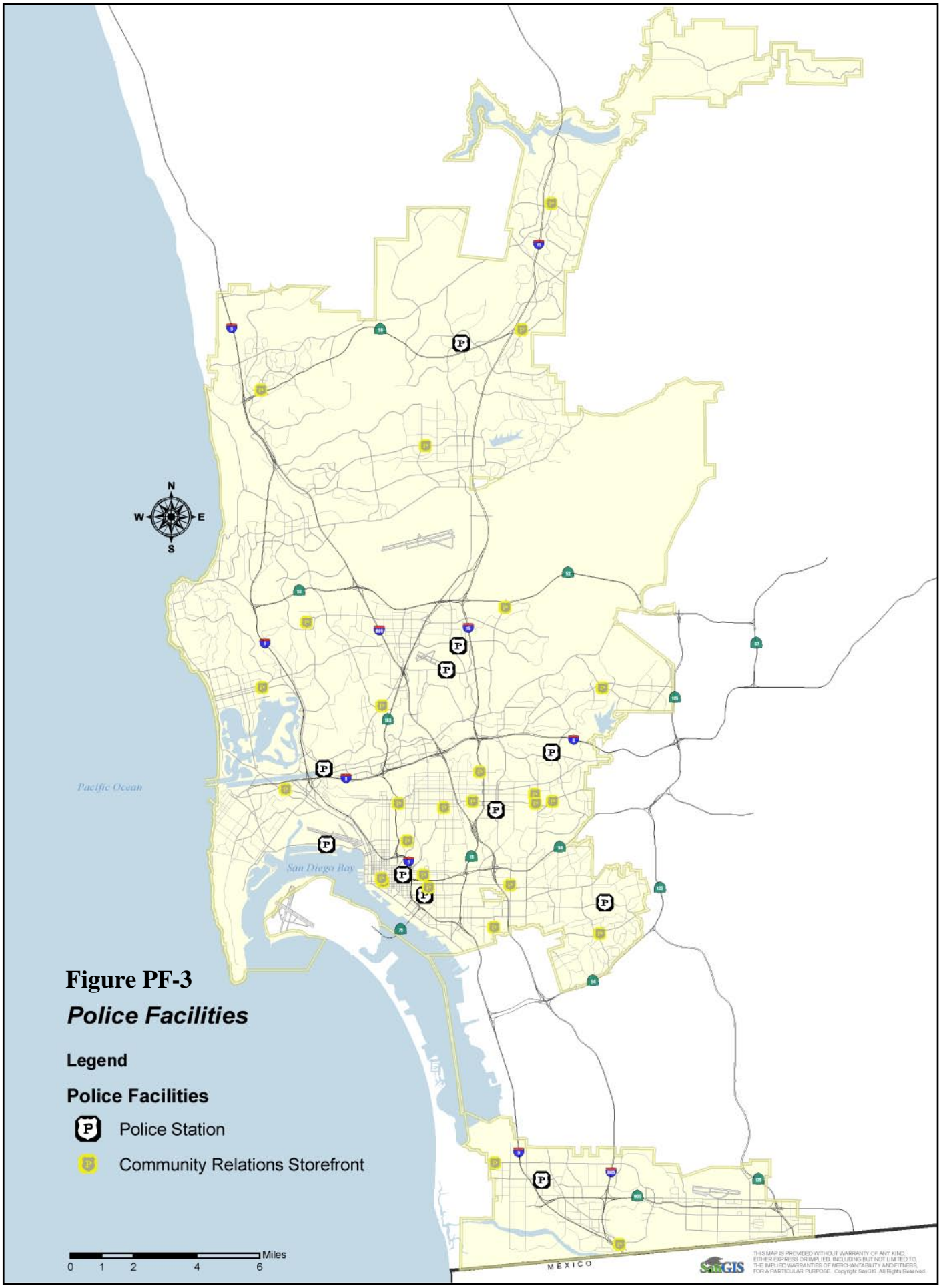
As development and growth continue in the city, additional infrastructure, including additional police facilities, will be required to maintain the city's established police response time goals to ensure public safety.

Policies

PF-E.1. Provide a sufficient level of police services to all areas of the city.

PF-E.2. Maintain average response time goals as development and population growth occurs. Average response time guidelines are as follows:

a. Priority E Calls (imminent threat to life) within seven minutes.
b. Priority 1 Calls (serious crimes in progress) within 12 minutes.
c. Priority 2 Calls (less serious crimes with no threat to life) within 30 minutes.


N
W
E
S
Pacific Ocean
San Diego Bay
MEXICO
Miles
0 1 2 4 6
Figure PF-3
Police Facilities
Legend
Police Facilities
Police Station
Community Relations Storefront
SanGIS
THIS MAP IS PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Copyright SanGIS. All Rights Reserved.

d. Priority 3 Calls (minor crimes/requests that are not urgent) within 90 minutes.
e. Priority 4 Calls (minor requests for police service) within 90 minutes.

PF-E.3. Police area station sites should be sufficiently buffered from adjacent land uses, especially if located in residential areas, when feasible.

PF-E.4. Planning for associated services or facilities to adequately support these new stations should occur as the need for additional police area stations increases to accommodate growth.

PF-E.5. New police facilities to be designed and constructed consistent with sustainable development policies.

PF-E.6. Contribute to long-range planning efforts and development reviews to address police needs.

PF-E.7. Provide mechanism for police services personnel to analyze the effects development has on average response time goals and police facilities.

F. Wastewater

Goals

- Improvements to the regional environment resulting from the collection, treatment, re-use, disposal, and monitoring of wastewater
- A wastewater system that supplements the region's limited water supply

Discussion

The city's wastewater system provides regional wastewater treatment and disposal services for the City of San Diego and 15 cities and districts in a 450 square mile area stretching from Del Mar to the north, Alpine and Lakeside to the east, and the Mexican border to the south. The city manages all of the resources needed to operate the current Metropolitan Sewerage System, serving a population of more that two million, and provides new facilities for improved treatment or additional capacity to accommodate regional growth and economic vitality while protecting water quality and the environment. Additionally, the city is also responsible for operating and maintaining the Municipal Sewerage Collection System for the City of San Diego. The city's wastewater system also helps protect ocean water quality, supplement a limited water supply, and comply with federal standards. Through state-of-the-art

facilities, water reclamation, biosolids production and cogeneration, the city is a leader in maximizing the conservation of water and energy as part of the wastewater treatment process

Major upgrades of the city's wastewater treatment facilities in the 1990s provided a functional treatment capacity (285 million gallons per day) sufficient to meet the projected needs of the service area (including 15 of the city's surrounding communities on a contracted basis) through at least 2020. Several treatment facilities are designed to produce recycled water for appropriate uses and support the city's water service strategy of diversifying water supply sources in order to reduce future reliance on imported water. Facilities have also been designed to supplement the region's power supply by exploiting location and the wastewater treatment process for the cogeneration of power where it makes sense.

A significant program of periodic cleaning and inspection is conducted to minimize overflows and resulting environmental impacts for the city's service area and nearly 3,000 mile system of wastewater collection pipes. The inspections are also conducted to determine the comprehensive capital repair, rehabilitation, and replacement program needed to ensure the long term integrity of this important infrastructure system. The city also operates a robust program of ocean sampling, particularly shaped to monitor the two large ocean outfalls utilized by the wastewater treatment facilities in order to contribute to the accurate assessment of our local environmental health.

To provide best value for ratepayer dollars, the city is engaged in an ongoing effort to continually improve efficient service delivery and implement proven best industry practices to manage the significant public investment in our wastewater infrastructure system assets.

Meeting evolving regulatory pressures is a nationwide challenge for the wastewater treatment industry. The city maintains an active dialogue with federal and state regulators aimed at arriving at the best solution for all stakeholders in the process. The results of this dialogue frequently dictate approaches to facility design and operation.

The city's Storm Water Pollution Prevention Program strives to facilitate the maintenance of quality recreational waters by a multi-faceted approach based upon enforcement, education, institutional change, innovative watershed management, water quality monitoring and analysis, and sound engineering solutions. The sources of pollution that must be controlled and eliminated result from urbanization as well as daily life and business choices. The key related strategy to prevent pollution is to couple innovative infrastructure and policy solutions with providing to residents, commerce, and industry with dependable resources and accurate information that will support and encourage informed choices consistent with improving San Diego's water quality.

Policies

PF-F.1. Meet or exceed federal and state regulatory mandates cost effectively.

PF-F.2. Produce quality reclaimed water.

PF-F.3. Minimize sewer spills by best practice infrastructure asset management practices.

PF-F.4. Maintain conveyance and treatment capacity under all weather and topographical conditions.

PF-F.5. Construct facilities to accommodate regional growth projections that are consistent with sustainable development policies.

PF-F.6. Ensure facilities meet business, safety, and life-cycle cost concerns.

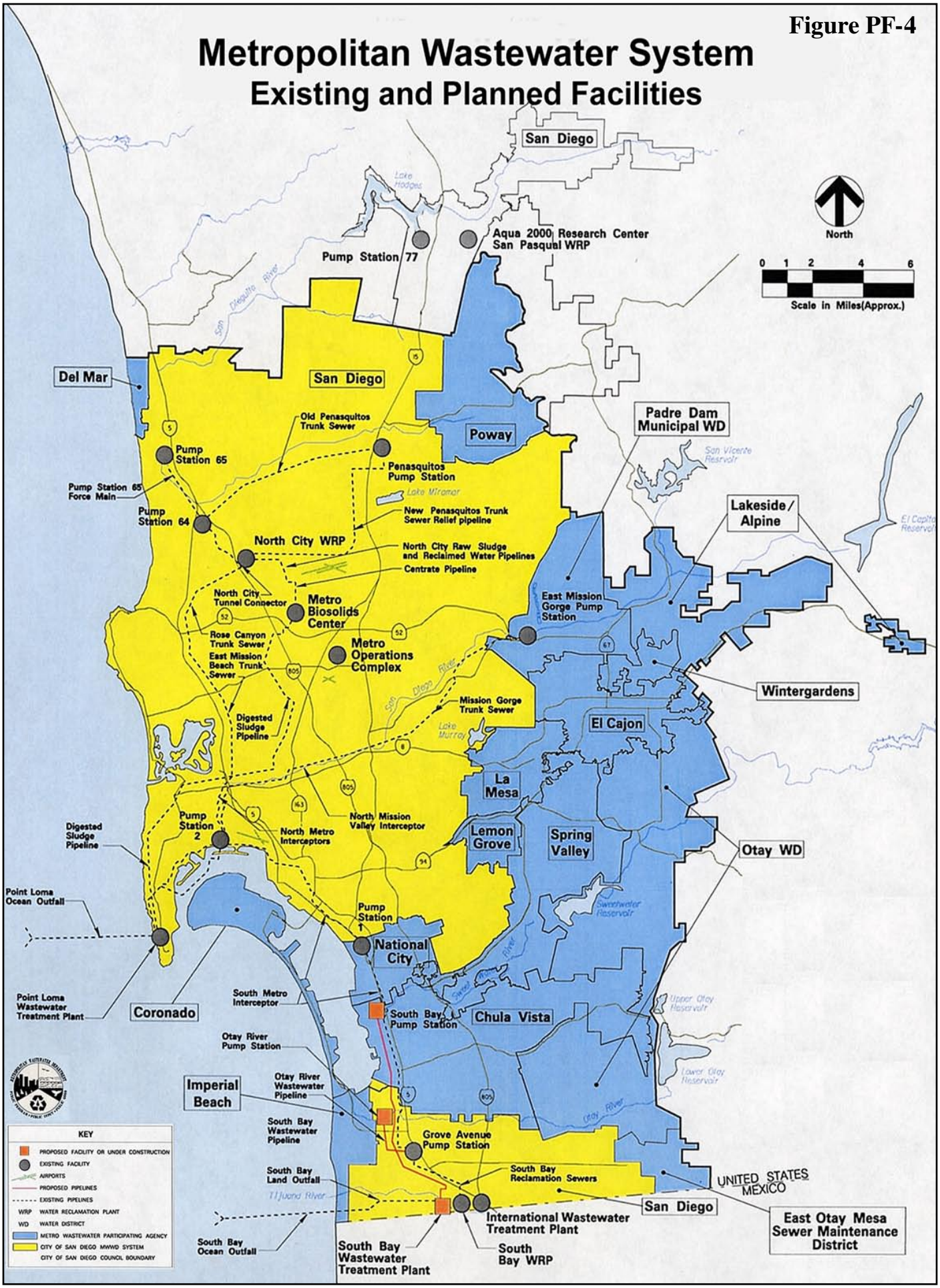
PF-F.7. Manage infrastructure assets optimally through efficient repair and replacement.

PF-F.8. Support informed and timely resource allocation decisions.

PF-F.9. Develop and execute a financing plan to satisfy requirements validated through the public participation process.

Figure PF-4

Metropolitan Wastewater System
Existing and Planned Facilities



PF-F.10. Explore entrepreneurial and environmental initiatives (such as the cogeneration of power) and pursue as appropriate.

PF-F.11. Maximize the beneficial use of sludge to the extent feasible.

PF-F.12. Maintain a cost-effective system of meeting or exceeding regulatory standards related to wastewater collection and treatment and storm water pollution prevention.

PF-F.13. Incorporate new technologies and scientific advancements in the optimal provision of wastewaster services.

G. Waste Management

Goals

- Efficient, economical, environmentally-sound waste collection, management, and disposal
- Maximum diversion of materials from disposal through the reduction, reuse, and recycling of wastes to the highest and best use

Discussion

Managing the refuse of society is an essential government function. Waste materials that are not effectively managed, collected, and disposed of, pose a health threat. Solid waste management requires an integrated approach focusing first on health and safety.

A primary component of any integrated solid waste management strategy is waste reduction. As emphasized in state, county, and city laws and planning documents, the less waste material that is produced in the first place, the better, both from an economic and an environmental perspective. Waste reduction is essential in all facets of society, including the home, government and private offices, farms, manufacturing facilities, and entertainment establishments. Wasted materials cause environmental impacts at each stage of their life cycle. There are impacts associated with the initial manufacture of the material, the transport of the material for sale, and the transport of the material for disposal or recycling. If not recycled or composted, the material takes up space in a landfill.

The city is required to comply with the California Public Resources Code. It is also necessary for the city to monitor regional disposal opportunities in order to ensure that plans are in place to meet the current and future disposal needs of San Diego's residents.

A reduction in the rate of consumption of landfill space is essential since any lands not required for the safe disposal of waste could be used for more productive purposes. Local government must continue to take an active role in educating the public about the economic and environmental benefits of waste reduction. For example, consumable items should be as durable as possible, with a long and efficient life that prevents wasting of resources. For waste materials that cannot be reduced at the source, local government must take steps to ensure efficient collection, maximum recycling/composting, and safe and environmentally-sound disposal. In addition, the city must also continue to provide litter prevention and abatement services and facilities.

It is the city's responsibility to manage the collection, recycling/composting, and disposal of waste materials. Environmental, economic and regulatory principals should guide the provision of the waste management services necessary to protect public health and safety whether the city provides the service directly or manages it through franchises, land use controls, or other methods.

Policies

PF-G.1. Provide efficient and effective waste collection services.

a. City and private fleets to provide efficient routing to minimize truck trip distances with fuel-efficient vehicles producing low emissions.
b. Design or retrofit city and private operation stations consistent with sustainable development policies.
c. Encourage waste reduction and recycling with source-separated collection of materials.
d. Encourage businesses and residences to provide space for recycling containers and efficient collection.
e. Identify additional funding sources for all waste management services.

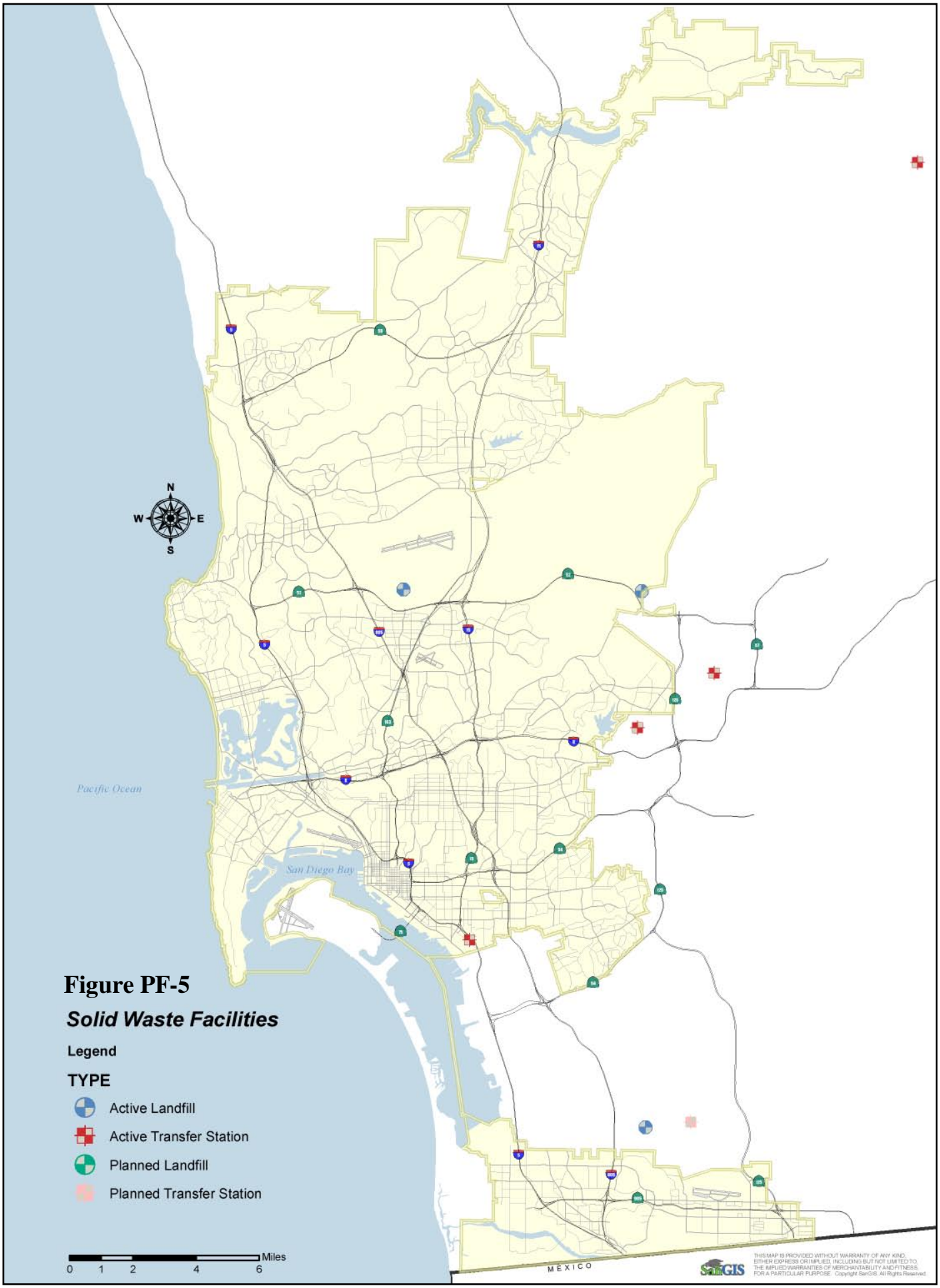


Figure PF-5

Solid Waste Facilities

Legend

TYPE

- Active Landfill
- Active Transfer Station
- Planned Landfill
- Planned Transfer Station

PF-G.2. Maximize waste reduction and diversion.

a. Conveniently locate facilities and informational guidelines to encourage waste reduction, diversion, and recycling practices.

b. Operate public and private facilities that collect and transport waste and recyclable materials in accordance with the highest environmental standards.

c. Support resource recovery programs that produce soil additives, mulch, or compost from yard debris and organic waste.

San Diegans create more than seven pounds of trash per person per day. With a population of more than 1.2 million, that adds up to nearly nine million pounds each day, or about 1.68 million tons annually. At the current rate of disposal, the city's Miramar Landfill will likely be filled to capacity and could be forced to close in 2012.

d. Maximize the separation of recyclable and compostable materials.

e. Provide local manufacturing facilities that recycle materials into usable products or that compost organic materials.

f. Support recycling of construction and demolition (C&D) of debris. Strive for recycling of 100 percent of inert C&D materials and a minimum of 50 percent of all other material.

g. Use recycled, composted, and post-consumer materials in manufacturing, construction, public facilities and in other identified uses whenever appropriate.

h. Encourage advance disposal fees to prevent the disposal of materials that cause handling problems or hazards at landfills.

i. Provide sufficient information on the movement of waste and recyclable materials to meet regulatory requirements at public and private transfer stations and materials recovery facilities to allow adequate planning.

j. Reduce subsidies to disposal and increase incentives for waste diversion.

k. Promote manufacturer and retailer responsibility to divert harmful, reusable, and recyclable products upon expiration from the waste stream.

l. Provide a mixed construction and demolition waste materials recycling facility.

m. Expand and stabilize the economic base for recycling in the local and regional economy by encouraging and purchasing products made from recycled materials.

n. Continuously assess new technologies for recycling, composting, cogeneration, and disposal to maximize efficient use of city resources and environmental protection.

PF-G.3. Provide environmentally-sound waste disposal facilities and alternatives.

a. Design and operate disposal facilities located within the city, or that serve as a destination for city waste, to meet or exceed the highest applicable environmental standards.

b. Investigate alternatives to standard disposal practices as fiscally and environmentally-sound technologies become available.
c. Ensure efficient, environmentally-sound refuse and recyclable materials collection and handling through appropriate infrastructure, alternative fuel use, trip coordination, and other alternatives.
d. Ensure environmentally and economically sound disposal options for materials that cannot be effectively reduced, reused, recycled, or composted.
e. Pursuant to the California Public Resources Code, provide for a sufficient planning period, with consideration of factors such as trip distance, sufficient environmentally-sound disposal capacity for waste generated within the city.
f. Cooperate on a regional basis with local governments, state agencies, and private solid waste companies to find the best practicable, environmentally safe, and equitable solutions to solid and hazardous waste management.
g. Maximize environmental benefit in landfill-based waste diversion and effective load check programs by ensuring that recyclable or hazardous materials do not end up in the landfill.
h. Use closed and inactive landfill sites for public benefits, such as provision of energy from waste generated methane, creation of wildlife habitat upon proper remediation, or other land uses determined to be appropriate.

PF-G.4. Promote litter prevention efforts and practices.

a. Provide conveniently located public litter and recyclable materials containers on public streets and in large public venues.
b. Encourage partnerships and collaborative efforts to sponsor and coordinate neighborhood pride/cleanup events.
c. Promote anti-litter education campaign and encourage point of purchase and other funding options to support education and cleanup efforts.

H. Libraries

Goals

- A library system that contributes to the quality of life through quality library collections, technologically improved services, and welcoming environments

- A library system that is responsive to the specialized needs and desires of individual communities

Discussion

The library system is a primary steward of the diverse cultural heritage of the San Diego community and of the enduring elements of world civilization; it is a portal to the world around us. It is a vital learning presence in the community, providing information objectively and offering lifelong learning opportunities to every citizen through the system's Central Library and 34 branches. The staff, collections, services, physical facilities, and programs exist to provide the best library service possible to all San Diegans. Each library strives to be a welcoming place.

The library system conducts regular evaluations of services to adapt to service demands, take advantage of constantly evolving technology, and to provide for facility construction and maintenance costs. Such assessments contribute to the provision of adequate collections that are responsive to community needs. Technological advances will continue to redefine what and how information and materials are provided and other library services. While available and applied technologies continue to influence the modern evolution of the library system, the need for physical library facilities will remain an integral aspect of the city's public services.

Policies

PF-H.1. Provide a permanent library facility when the population of a given community reaches 18 to 20,000 residents, with anticipated growth to at least 27 to 30,000 residents after twenty years.

PF-H.2. Recommended library building size for new or expanded facilities is 15,000 square feet of dedicated library space. There should be at least one larger facility in each Council District. Typically this would be a 20 to 25,000 square-foot facility.

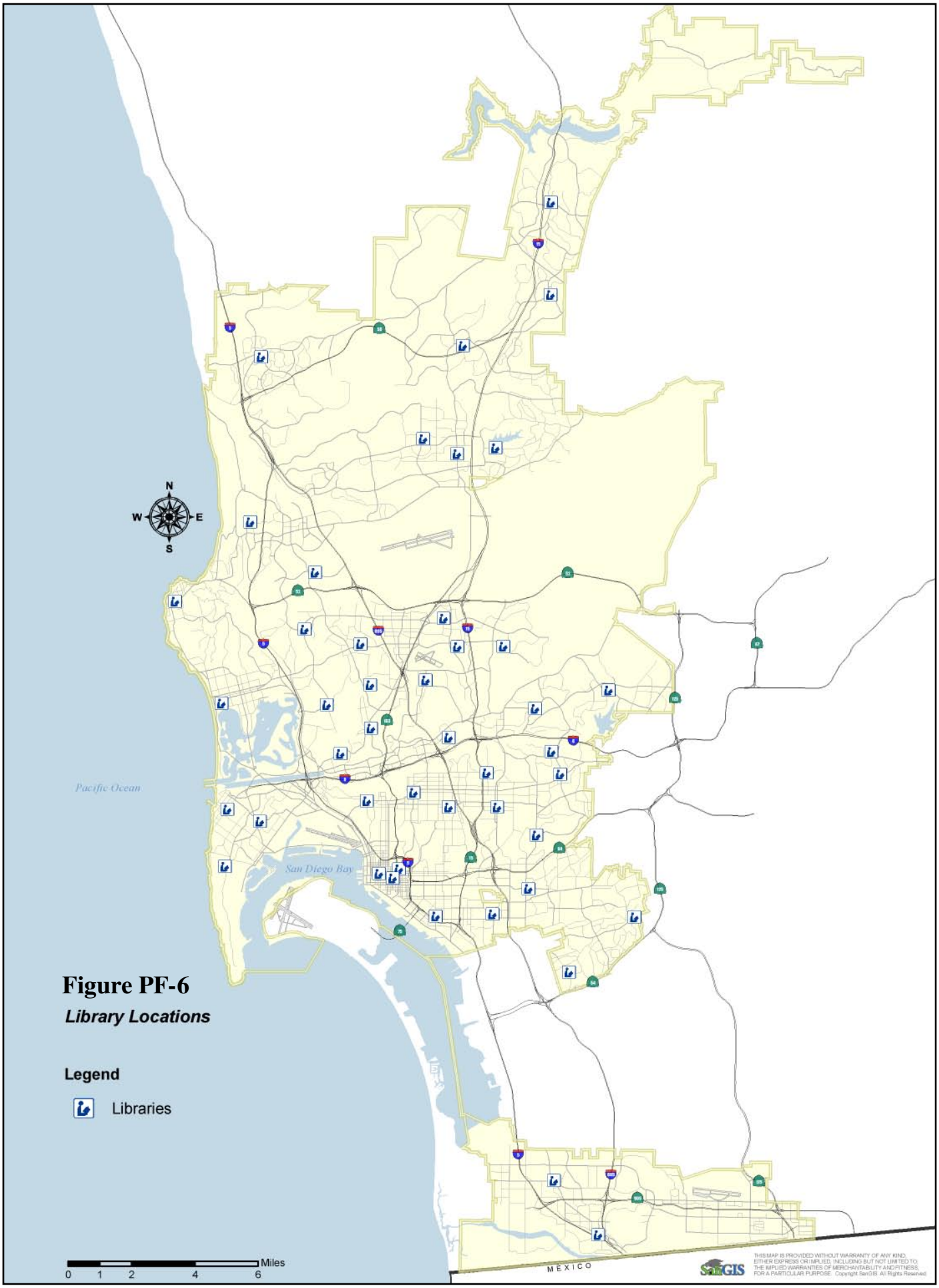


Figure PF-6

Library Locations

Legend

Libraries

PF-H.3. Recommended maximum radius of a branch service area should be approximately two miles.

PF-H.4. New library facilities shall meet energy efficiency and environmental requirements consistent with sustainable development policies.

PF-H.5. Locate new library facilities near village centers and public transit.

PF-H.6. Ensure consistent and equitable library services as communities grow in order to maintain service levels which consider operational costs and are based on established guidelines.

PF-H.7. Consider the appropriate architectural design of library facilities and their place in the neighborhood and community, consistent with sustainable development policies.

PF-H.8. Pursue joint-use of libraries with other compatible community facilities and services including other city operations.

PF-H.9. Build and maintain a library system that adapts to technological changes, enhances library services, and meets community and library system needs.

I. Schools

Goals

- A multi-level public and private school system that enables all students to realize their highest potential as individuals and as members of society
- Educational facilities that are equitable, safe, healthy, technologically equipped, aesthetically pleasing, sustainable, supportive of optimal teaching and learning for all students, and welcoming to parents and community members
- A public school system that provides opportunities for students to attend schools within their residential neighborhoods as well as choices in educational settings outside their neighborhoods

Discussion

One of the most important public services is the provision of schools and the offering of quality education to the residents of the city. San Diego is fortunate in having many levels of public and private educational institutions available: universities and colleges; an excellent Adult Education Program; numerous junior colleges; and the very necessary elementary and secondary school system. This section addresses the K-12 educational level and presents cooperative policies for the various independent educational authorities within the city.

Section 17620 of the California Education Code authorizes school districts to collect fees to mitigate the impact of new development on enrollment in the district. The State Allocation Board determines the maximum level of fees a district can levy for residential and commercial/industrial development.

A serious, persistent problem for most of the school districts has been the provision of schools in the remaining areas of the city that are rapidly developing. Equally as challenging, is the provision and redesign of educational facilities in many redeveloping areas. To meet the demand of increasing enrollment, the districts must make construction and reconstruction investments to meet the needs of existing and planned housing and demographic shifts. Similarly, to meet the demands of a diverse and competitive economy, other educational institutions must invest in expanding opportunities to accommodate growth, demographic shifts, and increased competition. For additional policies on education development see the Economic Prosperity Element.

The San Diego Unified School District is a K-12 district and provides educational services to approximately 80 percent of the City of San Diego. In addition to the San Diego Unified School District, there are 16 smaller districts, including elementary and secondary levels, which service the outlying northern, eastern, and southern areas of the city.

A balance must be established between the competing needs of maintaining/developing housing and constructing/expanding schools. Without such a balance new construction and expansion construction may have different student generation characteristics than redevelopment construction. In order to provide a school facility through redevelopment within an existing urban area, an accompanying need to remove existing housing units to build the project can displace existing students from that school's service area. This can result in a student load for a specific area that is reduced from the original projections. Other redevelopment which involves the conversion of housing supporting lower income families can have the same impact. Effects of displacing students to other, generally lower cost, housing areas within the city or region should be taken into account. The loss of lower income housing units in itself can reduce the overall stock of needed housing for families with school age children. Because of this the impacts, as well as the benefits, of redevelopment that provides new school facilities or other uses should be considered carefully for the best options.

Some districts have recently experienced drops in enrollment, especially in the older, fully developed sections of the city. It is forecasted that the mature areas of the city may see declining enrollments for at least the next decade, although there may be isolated increases in enrollment in areas experiencing substantial residential redevelopment. This decline is generated by a combination of factors including lower birth rates, out-migration of families with children, and a relative change in the demographics of in-migrants, including more single adults, childless couples, and smaller families.

The San Diego Unified School District applies the following guidelines in the planning of its school facilities:

Elementary schools: maximum enrollment of 700 students. Site of approximately seven acres required to support the educational program.

Junior high/middle schools: maximum enrollment of 1,500 students. Site of approximately 15 acres required to support the educational program.

Comprehensive senior high schools: maximum enrollment of 2,000 students. Site of approximately 25 acres required to support the educational program.

Beyond the consideration of demographic shifts, smarter planning for education means designing schools to serve as centers of their communities and or neighborhoods. The concept of joint-use is expanded well beyond the shared use of playing fields; it can include such facilities as auditoriums that double as community theatres; and incorporating centralized libraries, health clinics and other community services into schools that are designed in partnership with the residents for greater community access and engagement. The planning and design of more neighborhood-centered schools implements smart growth principles and is a more efficient use of scarce resources.

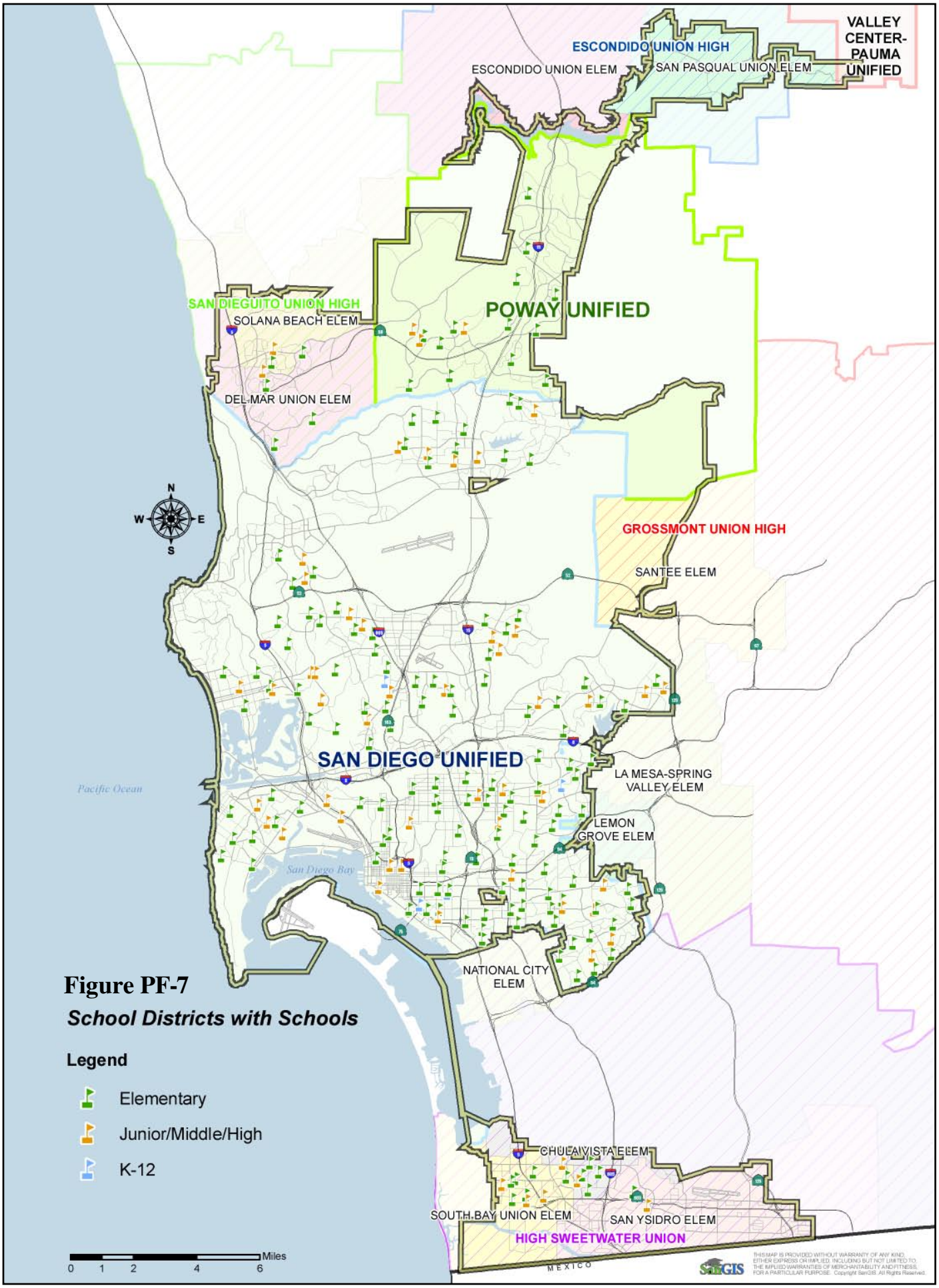


Figure PF-7

School Districts with Schools

Legend

- Elementary
- Junior/Middle/High
- K-12

Policies

PF-I.1. Assist the school districts in resolving problems arising over the availability of schools in all areas of the city.

PF-I.2. Design schools as community learning centers, recognize them as an integral part of our neighborhoods, and encourage equitable access to quality schools and other educational institutions.

PF-I.3. Smaller school sites should be considered for schools that have smaller enrollments, and/or incorporate space-saving design features (multi-story buildings, underground parking, placement of playgrounds over parking areas or on roofs, etc.).

PF-I.4. Schools should be located away from fault zones, high-voltage power lines, major underground fuel lines, and outside areas susceptible to landslides and flooding.

PF-I.5. Schools should not be located in areas subject to excessive noise, near industrial areas, hazardous material sites, or areas of significant motorized emissions.

PF-I.6. Work with school districts to better utilize land through development of multi-story school buildings.

PF-I.7. Continue joint-use of schools with adult education, civic, recreational, and community programs, and for public facility opportunities.

PF-I.8. Work with the school districts to develop school facilities that are architecturally designed to reflect the neighborhood and community character, that are pedestrian and cycling friendly, and that are consistent with sustainable development policies and urban design policies.

PF-I.9. Work with school districts to avoid environmentally protected and sensitive lands.

PF-I.10. Work with school districts in evaluating best use of underutilized school district facilities and land for possible acquisition and/or joint-use.

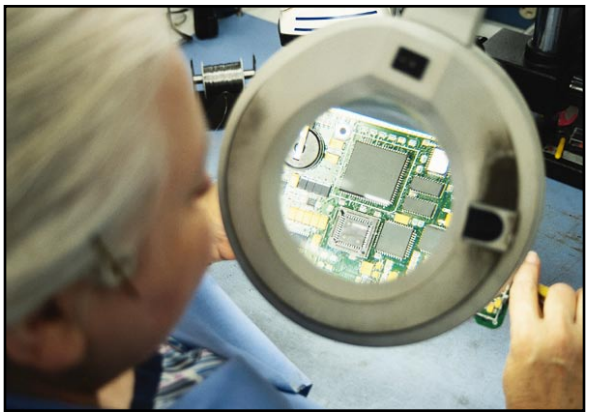
J. Information Infrastructure

Goals

- Increased opportunities for connectivity in the information infrastructure system
- An information infrastructure system that meets existing and future communication, access, and technology needs
- An integrated information infrastructure system that enhances economic viability, governmental efficiency, and equitable universal access
- A city that regulates and coordinates telecommunications to ensure and safeguard the public interest

Discussion

In January 2000, the city developed its first Information Technology Strategic Plan (ITSP). The ITSP is intended to define the city's vision of the future for information technology and key strategies for achieving this vision. The plan is also to provide citywide guidance and direction for the management and development of information technology.



The city recognizes that information technology can enable it to achieve its business goals and meet its challenges, including development of more efficient and cost-effective city services. Additionally, the city recognizes the need to develop and maintain the necessary information infrastructure in order to achieve the desired levels of communication, service, business, and access, internally and externally, for all public and private entities.

In addition to internal strategies, the city will continue to pursue the proper planning and provision of information infrastructure. Compared to traditional types of infrastructure such as roads and sewer lines, planning for high-tech infrastructure is a relatively recent phenomenon. The convergence of data, telephone, television, satellites, personal digital assistants, and the personal computer has created a dynamic world of interactive communications possibilities. Planning, providing, and supporting evolutions in communication and information infrastructure will provide a vital framework for job and commercial growth, educational opportunities, and quality of life issues in San Diego.

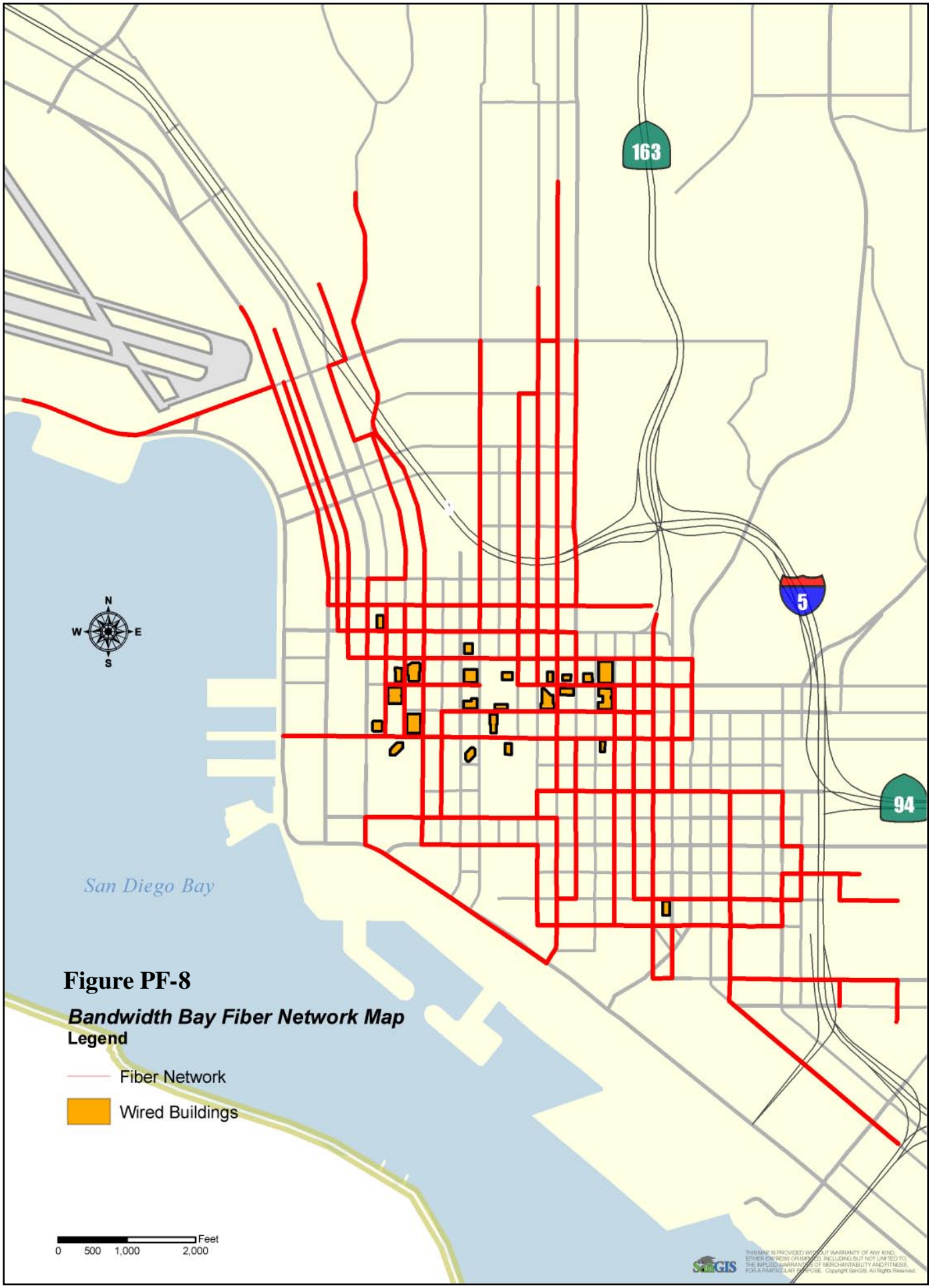


Figure PF-8

Bandwidth Bay Fiber Network Map

Legend

Fiber Network

Wired Buildings

Policies

PF-J.1. Incorporate appropriate information infrastructure requirements into all relevant local policies, ordinances, and plans.

PF-J.2. Coordinate with all agencies and programmed project schedules to minimize disruptions to residents and public rights-of-way, and incorporate information infrastructure needs and opportunities.

PF-J.3. Provide infrastructure to ensure seamless communications and universally available access to data for all internal and external groups.

PF-J.4. Facilitate economic development citywide, with consideration of the city's status in the border region of Mexico, with adequate provision of an information infrastructure system.

PF-J.5. Encourage and regulate private telecommunication service providers to work with the city in developing and maintaining an integrated information infrastructure system.

PF-J.6. Promote internally and externally cost-efficient delivery of services and exchange of information using telecommunication systems, including "hot zone" designations and other similar strategies.

PF-J.7. Encourage city departments and other employers to adopt telecommuting, wherever practical, to mitigate traffic congestion, air pollution, environmental concerns, and quality of life issues.

PF-J.8. Provide incentives for developers to pre-wire new and remodeled structures to accommodate future technologies to allow seamless communications citywide.

PF-J.9. Improve the city's existing emergency telecommunication system so that it can better respond to and mitigate the impacts of various emergency situations.

PF-J.10. Provide public access workstations in all communities within the city.

PF-J.11. Support efforts to provide those with disabilities access to the most current technologies.

PF-J.12. Ensure proper reuse, recycling and waste diversion efforts of communications equipment and other technologies upon expiration of use.

K. Disaster Preparedness

Goals

- A city and region that, through diligent planning, organizing, and training are prepared for man-made and natural disasters
- Reduced disruptions in the delivery of vital public and private services during and following a disaster
- Prompt and efficient restoration of normal city functions and activities following a disaster

Discussion

The City of San Diego's disaster preparedness program emphasizes the prevention of, response to, and recovery from natural, technological, and manmade disasters including acts of terrorism. The program is designed to improve the city's ability to protect employees, the community, and the environment; and to enhance its ability to recover from financial losses, regulatory fines, damages to facilities or equipment, and other impacts on service delivery or business continuity.

Prevention of disasters addresses prevention, mitigation, and educational activities which reduce or eliminate a threat, or reduce its impact on life, health, and property. The response efforts incorporate the functions of planning, training, exercising, and execution and are conducted in accordance with U.S. Department of Homeland Security Office of Domestic Preparedness requirements. In the event of a disaster, recovery efforts, including Local Assistance Center (LAC), Disaster Assistance Center (DAC), or Family Assistance Center (FAC) operations, are generally oriented toward activities that focus on returning to normalcy after an event. Key to recovery is the process of identifying critical services and their dependencies on infrastructures such as buildings, power, communications, and data systems.

The city's disaster preparedness efforts also include oversight of the city's Emergency Operations Center (EOC). The effort is responsible for maintaining the EOC in a continued state of readiness, training city staff and outside agency representatives in their roles and responsibilities, and coordinating EOC operations when activated in response to an emergency or major event/incident. Additionally, the city is responsible for the development and maintenance of emergency operational documents and guides for city facilities, Qualcomm Stadium, PETCO Park, and potential major incidents.

National and international events continue to focus attention on homeland security and public safety issues. The city is coordinating efforts to improve staff's ability to manage vital information and limited resources during a major emergency such as an earthquake, chemical spill, or act of terrorism through the use of technology. The city is also responsible for securing and managing homeland security and other grant funds to enhance its, and the region's, security and overall preparedness to prevent, respond to, and recover from any hazard whether natural or man-made.

Policies

PF-K.1. Ensure operational readiness of the Emergency Operations Center.

PF-K.2. Establish communications with all city elected officials and managers regarding Office of Homeland Security issues.

PF-K.3. Review and update Emergency Operations Plans on an annual basis.

PF-K.4. Develop a significant event/disaster After Action Report and critique format.

PF-K.5. Ensure that citywide guidelines for Operational Conditions (OPCON) are aligned with the U. S. Department of Homeland Security.

PF-K.6. Develop a comprehensive exercise program consistent with the U.S. Department of Homeland Security Office of Domestic Preparedness requirements.

PF-K.7. Coordinate with other urban area jurisdictions to execute a variety of exercises to test operational and emergency plans.

All emergency responders and EOC and Department Operation Centers (DOC) operate under the Standardized Emergency Management System (SEMS). SEMS is intended for managing response to multi-agency and multi-jurisdiction emergencies in California and is required by Government Code §8607(a).

PF-K.8. Facilitate all aspects of the execution of the city's pilot Community Emergency Response Team (CERT) program to meet the requirements set forth by the Emergency Preparedness and Response directorate of the U. S. Department of Homeland Security and the San Diego Citizen's Corps Council.

PF-K.9. Ensure that recovery efforts involving the disposal of materials adhere to the policies in the Waste Management section of this Element.

L. Seismic Safety

Goals

- Abated existing structural hazards which could threaten life and property in the case of a seismic event

- Development that avoids inappropriate land uses in identified seismic risk areas

Discussion

The fundamental objective of the seismic safety policies is to reduce the risk of hazard resulting from future seismic and related events. The seriousness of seismic risk to public safety is a function not only of local seismic conditions, but also a public awareness of the seismic hazards present, and the effectiveness of mitigation policies and practices utilized to reduce the risk resulting from the hazards. This section identifies existing and potential land use planning efforts which are instrumental in planning for seismic safety.

Southern California is considered one of the most seismically active regions in the United States, with numerous active faults and a history of destructive earthquakes. San Diego is located approximately 100 miles west of the San Andreas Fault, the predominate earthquake hazard in the state, and is close to several large active faults capable of producing intense ground shaking. Faults influencing local seismicity include the Elsinore, San Jacinto, Coronado Bank, San Diego Trough, San Clemente and La Nación. In addition, the downtown area of the city is underlain by the active Rose Canyon Fault. Local geologic maps show that most neighborhoods in San Diego are underlain by numerous smaller faults (see Geo-Technical Relative Risk Areas map).

Situated in such proximity to large faults creates a significant seismic risk to the City of San Diego. Damage to structures and improvements caused by a major earthquake will depend on the distance to the epicenter, the magnitude of the event, the underlying soil, and the quality of construction. The severity of an earthquake can be expressed in terms of both intensity and magnitude. The magnitude of an earthquake is measured by the amount of energy released at the source of the quake. The Richter Scale, developed in the 1930s for Southern California, is used to rapidly define earthquake size and estimate damage.

The city uses the San Diego Seismic Safety Study, a set of geologic hazard maps and associated tables, as a guideline to correlate acceptable risk of various land uses with seismic (and geologic) conditions identified for the site. Large and complex structures, and places attracting large numbers of people, are most restricted as to geographic location based on site conditions. These facilities include dams, bridges, emergency facilities, hospitals, schools, churches, and multi-story, high

Since 1929, the state of California has held full responsibility for the regulation and supervision of all dams and reservoirs within its territory that are not federally owned. This responsibility is exercised through the Department of Water Resources' Division of Dams, which conducts periodic inspections and re-evalutations of all dams and reservoirs under state jurisdiction - including the fourteen owned by the City of San Diego.

density residential structures. Low and medium residential development is considered land use of a lesser sensitivity and is therefore "suitable" or "provisionally suitable" (requiring mitigation) under most geologic conditions. Uses with only minor or accessory structures can be located on sites with relatively greater risk due to lower user-intensity associated with activities such as parks and open space, agriculture, and most industrial land uses. Geotechnical investigations are required to be performed prior to site development. The scope of investigations can range from feasibility surveys to extensive field exploration and engineering/geologic/seismic analyses depending upon the complexity of site conditions and the intensity of the proposed land use.

San Diego has been required to enforce the State Earthquake Protection Law (Riley Act of 1933) since its enactment in 1933. However, the seismic resistance requirements of the law were minimal for many years and San Diego did not embrace more restrictive seismic design standards until the adoption of the 1952 Uniform Building Code. Other applicable state regulations include the Alquist-Priolo Earthquake Fault Zoning Act, the Seismic Hazards Mapping Act, and the Unreinforced Masonry Law.

The California Earthquake Loss Reduction Plan was developed by the California Seismic Safety Commission in fulfillment of a mandate enacted by the Legislature in the California Earthquake Hazards Reduction Act of 1986. The plan is a comprehensive strategic document that sets forth the vision for a safer California and provides guiding policies. Incorporating lessons learned from all previous earthquakes, the plan is periodically updated for approximately five-year timeframes to continue to support new and ongoing efforts to protect California residents and the built environment. Such efforts are effective in reducing damage and injury from succeeding earthquakes. The city's development guidelines are consistent with state regulations and requirements.

The following table identifies those seismic, geologic, and structural hazards which the city must consider in all planning and development efforts.

Table PF-5 SEISMIC HAZARDS

Ground Shaking	When a break or rapid relative displacement occurs along the two sides of a fault, the tearing and snapping of the earth's crust creates seismic waves which are felt as a shaking motion at the ground surfaces. The most useful measure of severity of ground shaking for planning purposes is the Modified Mercalli Intensity scale. This scale, ranging from Intensities I to XII, judges shaking severity by the amount of damage it produces. Intensity VII marks the point at which damage becomes significant. Intensity VIII and above correspond to severe damage and problems that are of great community concern. For comparison, the Rose Canyon Fault, capable of producing a 6.9 magnitude earthquake, would have an intensity of VII-IX. Intensity IX earthquakes are characterized by great damage to structures including collapse.

Ground Displacement	Ground displacement is characterized by slippage along the fault, or by surface soil rupture resulting from displacement in the underlying bedrock. Such displacement may be in any direction and can range from a fraction of an inch to tens of feet. In San Diego, exposures are generally poor and most faults are either potentially active or inactive. However, if ground displacement were to occur locally, it would most likely be on an existing fault. Failure of the ground beneath structures during an earthquake is a major contributor to damage and loss of life. Many structures would experience severe damage from foundation failures resulting from the loss of supporting soils during the earthquake.
Seismically Induced Settlement / Subsidence	Settlement of the ground may come from fault movement, slope instability, and liquefaction and compaction of the soil at the site. Settlement is not necessarily destructive. It is usually differential settlement that damages structures. Differential or uneven settlement occurs when the subsoil at a site is of non-uniform depth, density, or character, and when the severity of shaking varies from one place to another.
Liquefaction	Liquefaction is a process by which water-saturated granular soils transform from a solid to a liquid state during strong ground shaking.
Soil Lurching	Soil lurching is the movement of land at right angles to a cliff, stream bank, or embankment due to the rolling motion produced by the passage of surface waves. It can cause severe damage to buildings because of the formation of cracks in the ground surface. The effects of lurching are likely to be most significant near the edge of alluvial valleys or shores where the thickness of soft sediments varies appreciably under a structure.
Tsunamis and Seiches	A tsunami is a sea wave generated by a submarine earthquake, landslide, or volcanic action. A major tsunami from either of the latter two events is considered to be remote for the San Diego area. However, submarine earthquakes are common along the edge of the Pacific Ocean, and all of the Pacific coastal areas are therefore exposed to the potential hazard of tsunamis to a greater or lesser degree. A seiche is an earthquake-induced wave in a confined body of water, such as a lake, reservoir, or bay.

GEOLOGIC HAZARDS

Landslide and Slope Stability	Old landslides and landslide-prone formations are the principal non-seismic geologic hazards with the city. Conditions which should be considered in regard to slope instability include inclination, characteristics of the soil and rock orientation of the bedding, and the presence of groundwater. The causes of classic landslides start with the pre-existing condition inherent within the rock body itself that can lead to failure. The actuators of landslides can be both natural events such as earthquakes, rainfall and erosion and human activities such as grading and filling. Some of the areas where landslides have occurred are: Otay Mesa; the east side of Point Loma; the vicinities of Mount Soledad, Rose Canyon, Sorrento Valley, and Torrey Pines; portions of Rancho Bernardo and Penasquitos; and along Mission Gorge in the vicinity of the second San Diego Aqueduct.

Coastal Bluffs	Coastal bluffs are land features that have resulted from the actions of sea wave forces on geologic formations and soil deposits. Geologic factors that affect the stability of bluffs include rock type, jointing and fracturing, faulting and shear zones, and base erosion. Where bluffs are eroding quickly, measures to reduce bluff degradation may be necessary in order to preserve the bluff line. In the Torrey Pines area, the coastal bluffs have experienced sizeable landslides where oversteepening of the seacliff has resulted in unstable conditions. In addition, rock falls have occurred in the Sunset Cliffs area caused by undermining of the sandstone.
Debris Flows or Mudslides	A debris flow or mudslide is a form of shallow landslide involving soils, rock, plants, and water forming a slurry that flows downhill. This type of earth movement can be very destructive to property and cause significant loss during periods of heavy rainfall. The City of San Diego is susceptible to mudslides because of abundant natural, hilly terrain and steep manufactured slopes. Steeply graded slopes tend to be difficult to landscape and are often planted with shallow-rooted vegetation on a thin veneer of topsoil. When saturated, these loose soils behave like a liquid and fail.

STRUCTURAL HAZARDS

Buildings	It is roughly estimated that about 800 (mainly nonresidential) masonry buildings within the city may constitute structural hazards. The majority of these are located in the downtown area; however, appreciable numbers are also found in the older sections of the Hillcrest, North Park, and La Jolla business districts, among others. Policies regulating the rehabilitation of such structures, and construction of new structures, are addressed in the city's Land Development Code.
Utility Systems	Utility systems are peculiarly subject to failure in earthquakes because of their largely underground location, and the inevitability that some lines will cross faults. Major transmission lines crossing fault zones should be carefully designed and constructed so that ground movement can be accommodated. In general, this suggests the use of flexible pipe and rubber ring joints rather than rigid lengths of pipe that are welded or glued. Frequent valving to permit the isolation of broken mains is also indicated, along with provision for utilizing redundant routes or systems.

Figure PF-9

Geo-Techincal Relative Risk Areas

Legend

- Nominal to Low
- Low to Moderate
- Moderate to High

Policies

PF-L.1. Protect public health and safety through the application of effective seismic, geologic and structural considerations.

a. Ensure that current and future community planning and other specific land use planning studies continue to include consideration of seismic and other geologic hazards. This information should be disclosed, when applicable, in the CEQA document accompanying a discretionary action.
b. Maintain updated citywide maps showing faults, geologic hazards, and land use capabilities, and related studies used to determine suitable land uses.
c. Require the submission of geologic and seismic reports, as well as soils engineering reports, in relation to applications for land development permits whenever seismic or geologic problems are suspected.
d. Utilize the findings of a beach and cliff erosion survey to determine the appropriate rate and amount of coastline modification permissible in the city.
e. Coordinate with other jurisdictions to establish and maintain a geologic "data bank" for the San Diego area.
f. Regularly review local lifeline utility systems to ascertain their vulnerability to disruption caused by seismic or geologic hazards and implement measures to reduce any vulnerability.
g. Adhere to state laws pertaining to seismic and geologic hazards.

PF-L.2. Maintain or improve integrity of structures to protect residents and preserve communities.

a. Abate structures that present seismic hazards with consideration of the desirability of preserving historical and unique structures and their architectural appendages, special geologic and soils hazards, and the socio-economic consequences of the attendant relocation and housing programs.
b. Continue to consult with qualified geologists and seismologists to review geologic and seismic studies submitted to the city as project requirements.
c. Pursue an amendment to the California Community Redevelopment Law to expressly provide that seismically hazardous structures may constitute a condition of blight.
d. Support legislation that would empower local governing bodies to require structural inspections for all existing pre-Riley Act (1933) buildings, and any necessary remedial work to be completed within a reasonable time.